

--Summary of the Invention

B2 The above and other objects and advantages of the invention are achieved by the provision of a guide chain for running energy lines which distinguishes itself in that it is constructed by individual, spatially limited, i.e., three-dimensionally movable chain links. In an extruded energy line guide chain as known from EP 0 554 051, an articulation is possible only, when the extruded sectional tubing exhibits a certain elasticity. As a result, such an energy line guide chain is capable of receiving only relatively low line weights. In the case of an energy line guide chain, as proposed by the present invention, each chain link comprises two opposite link plates extending in spaced relationship in a longitudinal direction of the energy line guide chain. The link plates are interconnected by at least one crosspiece. Each link plate comprises a joint body and a joint receiver, which extend substantially crosswise to the longitudinal direction of the energy line guide chain. The joint body of a link plate engages the joint receiver of an adjacent link plate. The articulated connection as is formed by the joint body and the joint receiver, does not form an integral part of the chain links, as is the case with an extruded sectional tubing of the energy line guide chain. As a result, the joint bodies and joint receivers may be designed and constructed for a greater load capacity. This applies likewise to the link plates and the crosspiece. As a result of releasably joining the chain links by the articulated connections, it will also be possible to repair the energy line guide chain, when one or more chain links have become defective.--

Please replace the paragraph beginning on page 5, line 18 with the following rewritten paragraph:

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B3 --In the case of the energy line guide chain as proposed by the invention, a clearance is provided respectively between the partially overlapping link plates of at least two adjacent chain links. Also each joint body comprises an outer surface area and each joint bore comprises an inner surface area. The outer surface area and the inner surface area define diametrically opposite contact areas where the outer and inner areas are in contact, and diametrically opposite gaps where there is a clearance between the areas. The contact areas thus form a pivot axis extending therebetween and which is perpendicular to the longitudinal direction of the energy line guide chain. The pivoting capability of the individual chain links relative to one another is thus achieved only by having the outer and inner surface areas lie against one another. The clearance which is provided between the partially overlapping plates of adjacent chain links allows the energy line guide chain to deflect substantially crosswise to its longitudinal axis.--

On page 13, between lines 25 and 26, insert
--Brief Description of the Drawings--

B4 On page 14, between lines 9 and 10, insert
--Figure 6A is a view similar to Fig. 6 and illustrating a different embodiment of the joint body and receiver;

On page 16, between lines 6 and 7, insert
--Detailed Description of the Preferred Embodiments--

Please replace the paragraph beginning at page 17, line 31 with the following rewritten paragraph:

B5 --In the embodiment of Fig. 6, each joint body 6 is substantially cylindrical, and the joint receiver 7 has a substantially oval cross section. The joint body 6 and joint receiver 7 comprise surface sections, which form diametrically opposite contact areas 16. The contact areas 16 each extend substantially in the longitudinal direction of the link plates 3. Between the diametrically opposite contact areas 16, a gap 17 is formed on each side of the joint body 6 which extends between an inner surface area 18 of joint receiver 7 and an outer surface area 19 of the joint body 6. The joint connection comprises two substantially diametrically opposite gaps 17, which are crescent-shaped in the illustrated embodiment. When viewed in the circumferential direction of joint body 6, the gaps each extend from a contact area 16 to the contact area 16 on the opposite side.--

On page 18, between lines 31 and 32 insert

B6 --Figure 6A illustrates an embodiment wherein the joint body 6 has an oval cross section and the joint receiver 7 has a circular cross section.--

Please replace the paragraph beginning at page 20, line 9 with the following rewritten paragraph:

B7 --Both the joint body 26 and the joint receiver 27 of the chain links are designed and constructed in the same way as those of chain link 1. For this reason, the description with reference to Figures 6 and 7 is herewith incorporated by reference.--

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Appl. No.: 09/786,027
Filed: May 15, 2001
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Please replace the paragraph beginning at page 21, line 4 with the following rewritten paragraph:

B8 --The joint bodies 42 are provided in end regions of link plates 38, 39. The opposite end regions of link plates 38, 39 accommodate the joint receivers 46. The joint receivers 46 have a substantially elliptical cross section, so that the joint bodies are capable of pivoting in the corresponding joint receivers such as to deflect adjacent chain links 37 relative to each other in the lateral direction. --

Please replace the paragraph beginning at page 22, line 25 with the following rewritten paragraph:

B9 --To limit the angle of traverse of adjacent chain links about an axis extending crosswise to the longitudinal direction of the energy line guide chain, preferably each link plate comprises at its end a stop element 61. The opposite end of the link plate is provided with stop surfaces 62. The stop elements 61 cooperate with the stop surfaces 62 of an adjacent chain link. The stop surfaces 62 are formed in a plane extending substantially parallel to a center plane of the link plate. Preferably, the stop surfaces are made equidistant from the center plane. Likewise, the stop element 61 is formed in the region of the center plane of the link plate. --

Please replace the paragraph beginning at page 23, line 24 with the following rewritten paragraph:

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--The base body 64 is provided with a receptacle 68, which is adapted for accommodating a connection element not shown. The connection element is attached to a connection point. In the illustrated embodiment, the receptacle 68 is designed and constructed crosswise to the longitudinal axis of an energy line guide chain, which is not absolutely mandatory. The joint receiver may also be made parallel to the longitudinal axis of an energy line guide chain. It may even intersect the longitudinal axis of the energy line guide chain at an angle.--

Please replace the paragraph beginning at page 26, line 9 with the following rewritten paragraph:

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--When the connecting link 63 is connected to a connection element not shown, the connection element will engage opening 68. To prevent the connecting link 63 from disengaging from the connection element, a snap-in engagement occurs between the walls 71 and the connection element. To block this snap-in engagement, the locking element 80 is further pushed into slide-in opening 74, until it occupies the end or locking position shown in Figures 32-34. To realize that the locking element 80 is further pushed in inside the slide-in opening 74, the locking element 80 pushes the safety flap away from the base body 64, as shown in Figure 31. The safety flap 85 is pushed away from base body 64 so far that it is possible to slide the safety flap 85 over the projection 88. At the same time, this movement causes the free legs 81, 82 to slide between the side walls 77 and the outer surfaces 91 of wall segments 71, so that the free legs 81, 82 lie both against the side wall 77 and against the outer surface 91 of wall segments 71, for purposes of preventing the wall segments

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B11 71 from moving radially outward. Figure 33 illustrates the position of legs 81, 82, in which the locking engagement is reached.--

Please replace the paragraph beginning at page 38, line 3 with the following rewritten paragraph:

B12 --An energy line guide chain for running lines between a stationary and a movable connection, with jointed chain links of plastic, which define each a channel section extending in the direction of the energy line guide chain. Each chain link comprises opposite link plates extending in spaced relationship in a longitudinal direction of the energy line guide chain. The link plates are interconnected by at least one crosspiece. Each link plate comprises a joint body (6) and a joint receiver (7), which extend substantially crosswise to the longitudinal direction of the energy line guide chain. The joint body (6) of a link plate engages the joint receiver (7) of an adjacent link plate. Between the partially overlapping link plates of two adjacent chain links, a clearance is provided. The joint body (6) comprises two diametrically opposite outer surface areas (19). The joint receiver (7) has two diametrically opposite inner surface areas (18). The outer surface areas and inner surface areas define diametrically opposed gaps (17) which permit a lateral deflection of the chain links.--

In the Claims:

Cancel Claims 1-29, without prejudice.

Add the following new Claims 30-54:

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